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Clinical Image
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Reconstruction of the Hip Joint with a New Custom Made AJS® Prosthesis Coated with Deep EPORE® Structure after Excision of the Proximal Femur Affected by Fibrous Dysplasia of Bone

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Clinical Image

We present a case of fibrous dysplasia of femur, affecting the right hip joint, in which after resection of the lesion, the hip joint was replaced with purpose designed prosthesis. Fibrous dysplasia is a benign tumor that has been likened to a localized developmental arrest of bone constituents. Depending of number of bones affected it can appear as monostotic or polyostotic clinical pattern. The lesion is frequently asymptomatic, but it may cause pain, fracture and discrepancies in limb length. 58-year-old woman was referred with fibrous dysplasia of the bone. She complained of long-term pain and limited movement of the right hip. Radiographs revealed dysplastic lesion localized in proximal part of femur, including head and shaft of femur (Figure 1). CT scan of affected bone was done to assess the range of dysplasia and to do the preoperative planning, allowing to prepare custom made stem project. The usage of standard stem was contraindicated in that case [1]. The prosthesis (Implant cast GmbH, Buxtehude, Germany) was designed based on CT scans (Figure 2). Fibrous dysplasia not only deforms the bone structure but also weakens it. To make prosthesis more stable and related to bony tissue, the bone contact surfaces were covered with deep EPORE®. EPORE® is a titanium alloy, that due to proper manufacturing processing gains properties similar to human bone. High porosity and rods of 330 μm to 390 μm encourage bone in growth and improves long term fixation (Figure 3). We excised part of the right femur containing the dysplastic bone. We implanted Custom Made AJS® stem EPORE® covered. As a cup in pelvis we used non-cemented EcoFit® cup EPORE® size 44 mm [12]. Histopathological examination confirmed the diagnosis of fibrous dysplasia. The postoperative course was uneventful. Postoperative radiograph presents stable implant (Figure 4). Both limbs similar in length. Ten days after surgery patient was moving independently with support of crutches. Three months after surgery, control showed healed scar (Figure 5A). Both limbs similar in length (Figure 5B). Evaluation using MSTS scale was done with

Figure 1: X-ray, lower extremities, visible dysplasia of femur and tibia.

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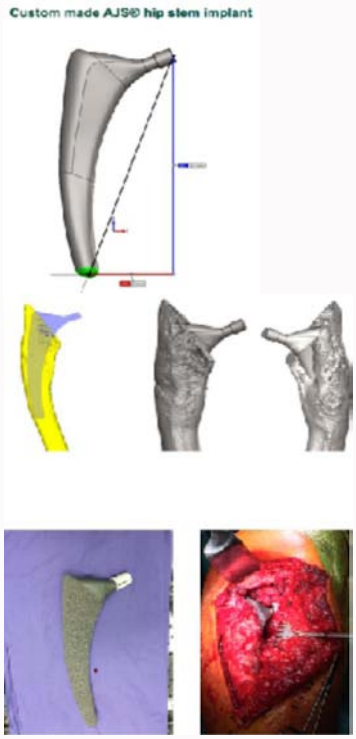

Figure 2: CT scan, Custom made AJS® stem project and intraoperative view.

Figure 3: EPORE® structure.

Figure 4: Postoperative X-ray of right hip.

excellent result (Table 1). The mobility of the limb was significantly improved. Patient without pain. The total time of follow up is 18 months with the same clinical outcome.

Figure 5: (A), (B) patient 3 months post-operatively.

Table 1: MSTS score.

MSTS Pain	5
MSTS Function	5
MSTS Emotional	5
MSTS Support	5
MSTS Walking	5
MSTS Gait	5
MSTS Score	30
MSTS Score %	100%
MSTS: poor, good, excellent	excellent

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